

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P13819/MDR	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2004/000516	International filing date (day/month/year) 02.04.2004	Priority date (day/month/year) 02.04.2003
International Patent Classification (IPC) or national classification and IPC B32B27/18, C08K5/1545		
Applicant Amcor Flexibles Europe A/S et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
- a. ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:
- ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 02.02.2005	Date of completion of this report 23.08.2005
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Hélène Sundström/EK Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2004/000516

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 18 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 1 - 3 received by this Authority on 19.08.2005
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2004/000516

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-18</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-18</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-18</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

D1: US5234750

D2: JP2002240848

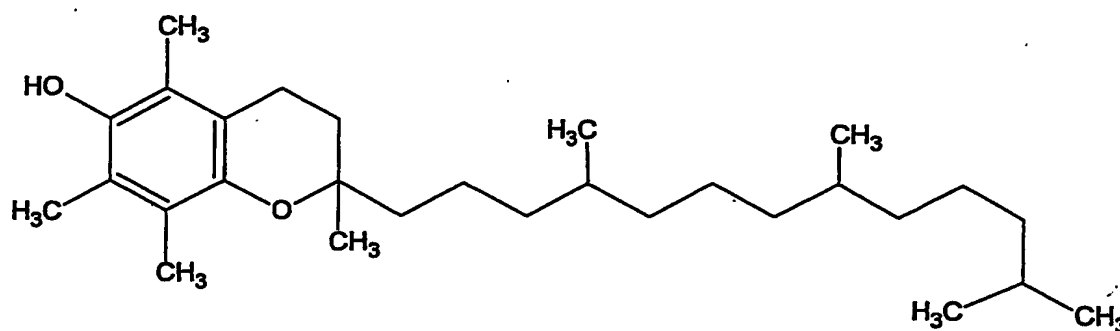
The cited documents represent the general state of the art.
The invention defined in claims 1- 18 is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed material for packaging purposes with a layer comprising vitamin E in a concentration of at least 700 ppm for preventing oxidation of the packaging object. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1- 18 is novel and is considered to involve an inventive step. The invention is industrially applicable.

CLAIMS

1. A material for packaging purposes comprising a first layer which comprises a polymer material, wherein said first layer has a first surface intended to be turned towards a packaging object, characterized in that said first layer comprises one or more compounds having the activity of "vitamin E" in a total concentration of at least 700 ppm for preventing oxidation of the packaging object.
2. A material according to claim 1, wherein said total concentration is at least 5000 ppm.
3. A material according to claim 1 or 2, wherein said total concentration is at least 10000 ppm.
4. A material according to any of the preceding claims, wherein said one or more compounds having the activity of "vitamin E" is α -tocopherol according to formula (1),



(1)

wherein by α -tocopherol according to formula (1) it is meant compounds selected from dl- α -tocopherol, d- α -tocopherol and all other stereoisomers of α -tocopherol.

5. A material according to any the preceding claims, wherein the material comprises a second layer which is a strengthening layer and/or a third layer which exhibits heat resistance.

6. A material according to any of the preceding claims, wherein the material comprises a material combination which gives a barrier and heat resistance, and the material combination may comprise a barrier layer.

5 7. A material according to any of the preceding claims, wherein the material comprises further layer/s comprising said polymer material.

8. A material according to any of the preceding claims, wherein said polymer material comprises polyolefin and/or polyester based polymers, for
 10 example, polyethylene (PE), polypropylene (PP), amorphous polyethylene terephthalate (APET), polyvinyl chloride (PVC), polycarbonate (PC) and/or other layer, which gives strength and heat resistance or only heat resistance.

9. A material according to any of claims 5-8, wherein said second layer
 15 and/or said third layer, independently of each other, comprise OPET, OPA, oriented polypropylene (OPP), amorphous polyethylene terephthalate (APET) or polyvinyl chloride (PVC).

10. A material according to any of claims 5-9, wherein said third layer has
 20 been formed by using methods such as crosslinking or by use of high temperature melting polymers or protective lacquers.

11. A material according to any of claims 5-10, wherein said barrier layer
 comprises copolymer of ethylene and vinyl alcohol (EVOH), polyvinyl alcohol
 25 (PVOH), polyvinyl dichloride (PVDC) or vacuum deposited barrier layer.

12. A material according to any of the preceding claims, wherein any layer/s and/or barrier layer/s are bonded together by use of a means for adhesion.

30 13. A material according to any of the preceding claims, wherein the total thickness of the material varies between 12 μm and 400 μm .

14. A material according to any of the preceding claims, wherein said polymer material is sealable.

15. A material according to any of the claims 1-13, wherein said material is for packaging of liquid packaging objects, for example, beer, wine or fruit juice.

5 16. A method for preparing a material according to any of the preceding claims, wherein said method comprises formation of said first layer and formation of said material comprising further layer/s and/or barrier layer/s.

17. A method for packaging, wherein a material according to any of claims
10 1-15 is used in said method.

18. Package, wherein a material according to any of claims 1-15 is comprised in said package.